Remarks:

This application has been carefully considered in light of the Official Office action and the Claims have been rewritten in an effort to further define the invention and to distinguish over the prior art. The new claims 5 and 6 are believed to patentably avoid the Bright and Pratt references cited in anticipation in the office action.

The Pratt reference shows lifting tines on a frame for a front end loader which lifting tines can be used with overhead clamping members. However, this reference does not show a frame for optional use of a bucket in combination with overhead hooks; nor does it show any means on the frame to attach a bucket, as recited in Claim 5..

Further, this reference does not show the use of overhead clamps alone, as in applicant's device, nor the use of overhead hooks in combination with a conventional bucket, which bucket may be mounted directly to the arms of a front end loader, if desired, as also set forth in Claim 5.

The Bright reference, on the other hand, only shows a bucket capable of being coupled to the front of the arms of a loader, with none of the other structure of applicant's device, just recited.

Further, the references do not show the novel elbow mechanism for guiding the cables, as set forth in dependent Claim 6.

Accordingly, applicant's invention is for an entirely different structure and operation. Since the claims now recite these features in varying scope believed to be of patentable significance; accordingly, favorable action upon these claims is courteously requested..

Respectfully,

Robert E. Kleve

Robert E. Kleve

The hook frame 23 has a pair of projecting lugs or flanges 24 and 24' projecting angularly rearward and downward along its upper rear edge and a ~~pair of~~ rearward and downward projecting flange 26 along its lower rear edge with a pair of rod receiving holes 27 and 27' in the lower projecting flange 26.

The hook attachment invention 20 is adapted to be detachably mounted on the rear face 23' of the hook frame 23 to the conventional front end loader 21. The loader has pivotally mounted arms ~~28~~ 21' and a conventional hydraulically operated lever attachment bracket 29 is pivotally mounted at pivot point ~~29~~ 29' to the lower forward ends of the arms 21', powered by hydraulic pistons and cylinders 28. The hook frame 23 on its rear face 23" has a upper pair of downward projecting flanges 24 and 24' are adapted to detachably receive forward upward projecting flanges 31 and 31' on the top of the attachment bracket ~~21~~ 29 on the front end loader. The holes 27 and 27' on the lower flange 26 of the hook frame are adapted to receive conventional lever manipulated pins ~~30~~ 29" on the bracket ~~21~~ 29 on the arms of the front end loader for mounting the hook frame 23 of the hook attachment invention 20 to the attachment bracket mechanism ~~21~~ 29 of the front end loader..

The hook attachment invention 20 is also adapted to detachably mount a conventional bucket 30 to the front face 23" of its frame 23. A conventional bucket has a rear face 34 similar to the rear face of the hook frame 23 with a pair of rearward and downward projecting flanges 33 intermediate the height of the rear wall of the bucket and a pair of eyelets or holes 40 in flanges 37, which flanges project rearward and downward along the lower rear face 34 of the bucket.

The front face 23' of the frame 23 of the hook attachment invention 20 has a pair upward projecting flanges 32 and 32' on the upper front face of the frame 23 projecting angularly forward and upward. The flanges are adapted to be detachably engage beneath complementary rearward and downward angular projecting flange 33 on the rear face 34 of the bucket 30. The front hook attachment invention 20 has a pair of lever manipulated rod members 35 and 35' mounted to the forward portion of the frame 23 of the attachment invention with pins 36 and 36' directed downward.

The conventional bucket 30 has the pair of rearward projecting flanges 37 on its rearward lower portion 38 ' of the bucket frame 39 directed angularly rearward and downward with the holes 40 therein to receive the pins 36 and 36' of the hook attachment invention to detachably connect the bucket 30 to the hook attachment invention 20.

The manipulative lever members 35 and 35' of the hook frame 23 each have handles 41 and 41' which are pivotally mounted on pins 43 and 43', which pins are fixed to flanges 42, and the flanges are in turn fixed to the frame 23. The handles are pivotally mounted at a second pivot point by pins 44 to short rods 45 and 45'. The short rods 45 and 45' each have an enlarged head member 46 at their lower end and an enlarged head 48 at their upper end , and the rods 45 and 45' slide in sleeves 47 and 47', which sleeves are fixed to the upper ends of connecting rods 49 and 49'. The rods extend downward to the lower portion of frame 23. A coil spring 50 is fitted between each sleeve 47 and 47' of the connecting rods and the upper heads 48 on the short rods 45' and act to cushion upward movement of the connecting rod relative to the short rods 45 and

45' when the connecting rod sleeves 47 and 47' are urged upward on the rods 47 and 47', causing the sleeves of rods 49 and 49' to slide upward on the rods 45 and 45'. The coil springs act engage the upper ends of the sleeve and they act to cushion that upward movement and act to urge the connecting rods back down on the rods 45 and 45'. The pins 36 and 36' are pivotally mounted at their upper ends at pivots 36"' to the lower ends of the rods 49 and 49'. The pins are slidably mounted in sleeves 36"" fixed at the bottom of the frame 23.

Operation.

The hook attachment invention operates as follows;

The front end loader 21' will be driven up to the hook attachment invention 20 and the arms 28 of the loader will be pivoted downward to lower the attachment bracket 21 29 near the ground slightly below its position as shown in Figure 1, with the bracket 21 29 pivoted clockwise slightly further than shown in the drawing, to facilitate the attachment.. Whereupon the loader 21" will be driven further forward until the upward projecting flanges 31 and 31' on the forward face of the attachment 21 29 of the loader are beneath the flanges 24 and 24' on the rear face 23" of the frame 23 of the hook attachment invention 20

Whereupon the arms 28 of the loader will be raised a short distance on the loader to enable the flanges 31 to slide directly up under the flanges 24 and 24' of the hook attachment invention and the hook attachment 21 will then be pivoted back counterclockwise about its pivots 29 and 29' toward Co is position shown in Figure 1 by the retraction of the pistons of the cylinders 21 28", and the arms raised slightly further, if necessary, to cause the hook attachment to pivot about the

flanges causing the lower flanges 26 and 26' to slide under the pins 30 of the attachment 21 of the front end loader, while flanges 24 and 24' remain hooked on the flanges 31 of the hook frame 23.

Whereupon the handles 60 and 60' of the attachment 21 on the arms 28 of the front end loader will be pivoted downward from their position shown in solid lines in Figure 3 which will cause the connecting rods of the attachment 21 of the front end loader to slide downward and thereby cause the pins 30 29' mounted to the bottom of the connecting rods to slide downward in their sleeves at the bottom of the attachment flanges. The downward movement of the pins 30 29' will cause them to slide down into the holes 27 and 27' in the bottom flanges ~~31 and 31'~~ 26 of the rear attachment frame 23 of the hook attachment as shown in Figure I, thereby locking the frame 23 of the hook attachment as well as the hook attachment to the attachment bracket 21 29 of the front end loader, so that the frame 23 will move with the attachment bracket when the attachment bracket is moved by its hydraulic cylinders between the bracket and the arms and when the arms of the loader are moved upward downward by the hydraulic cylinders of the loader powering the arms.

Once the hook attachment ~~20~~ 20 has been attached to the attachment 21 29 of the front end loader, the piston and cylinders 25 and 25' of the hook attachment invention will be connected to the hydraulic lines of the front end loader.

A hydraulic line guide mechanism 51 is provided to guide the hydraulic lines 52 and 53 between the hydraulic cylinders 25 and 35' and the hydraulic lines 57 and 58 which provide hydraulic

fluid under pressure from a pump on the loader to the lines 52 and 53 to power the cylinders 25 and 25' in both directions. The hydraulic line guide mechanism has two elongated channels 54 and 55 pivotally connected together by a pivot 55' at the bottom of the channels . The channel 54 has one side fixed to the side of the frame 23 of the hook attachment invention 20.

The hydraulic lines 52 and 53 extend from the cylinders 25 and 25' through a line handling channels 54 and 55 of the hydraulic line guide mechanism or bracket 51 mounted on one side of the frame 23 and these lines terminate coupled to the couplings 56 and 56' of the hydraulic lines 57 and 58 of the loader.

These lines 57 and 58 on the loader are connected at their other ends to a pump, not shown, on the loader. The pump on the loader pumps hydraulic fluid along lines 57 and 58 and lines 52 and 53 to the hydraulic cylinders 25 and 25', with cylinder 25' being connected in parallel with cylinder 25 to provide hydraulic fluid under pressure to both cylinders to power the telescoping of the pistons 25"of cylinders 25 and 25' to pivot the hooks upward and downward about the pivots on the frame 23 to thereby raise and lower the hooks relative to the hook frame.

Once the hydraulic lines from the cylinders 25 and 25' of the hook attachment have been connected to the hydraulic pump of the front end loader, the hook attachment invention can be operated to hook or grapple objects with the hooks 22.

When it is desired to use the bucket 30 in combination with the hook attachment invention 20, the operator will move the front end loader with the hook attachment attached to the attachment

bucket 30.

Whereupon, the operator of the front end loader will raise the arms of the front end loader to raise the attachment 21' of the loader and the hook attachment invention 20 off the ground and then move the loader and the hook attachment until they are in front of the bucket and then lower the arms of the front end loader to lower the attachment and the hook attachment to the ground and then move the loader , attachment and hook attachment forward until the frame of the hook attachment is in front and below the flanges of the bucket. Whereupon, the operator of the front end loader will raise the arms of the loader to raise the hook attachment to cause the flanges on the front of the frame of the hook attachment to engage under the flanges 33 of the bucket. Whereupon, the operator will if necessary also pivot the loader attachment member 21' counterclockwise when viewed from Figure 1, to cause the lower front face of the frame 23 to pivot against the rear wall of the bucket thereby bringing the pins 36 over and in alignment above the holes 40 in the rear flange 37 of the bucket. The operator may then pivot the handles 41 and 41' downward from their positions as shown in Figure 3 to cause the short rods and long rods 49 to slide downward in the frame 23 which cause the pins 36 and 36' downward in the sleeves of the frame and thereby engage in the holes 40 in the rear flange of the bucket thereby locking the bucket to the frame 23.

Thereupon, the bucket 30 will be locked to the frame 23 of the hook attachment and may be used with the hooks on the arms of the front end loader.

The pair of hydraulic lines 52 and 53 connect to the hydraulic cylinders 25 and 25' at their forward ends 60 and at their rearward ends 61 are connected to hydraulic lines 57 and 58 on the front end loader. When the loader hydraulic cylinders 28 are activated to pivot the loader attachment 29 about its axis 29' the pivoting action pivots the forward portions 60 relative to the rear ends 61 of the hydraulic lines or cables. The hydraulic cable mechanism 51 act as a elbow guide to guide the intermediate portions 63 of hydraulic lines 52 and 53 as they bend to accommodate the change in positions of their outer ends 60 and 61 relative to one another..

The hydraulic cable guide mechanism 51 is mounted to the one side 35 of the hook frame 23. The hydraulic cable guide mechanism has a pair of channel members 54 and 55. The channel member 54 is fixed to the side of the frame member 23. The channel member 55 is pivotally mounted by a pin 55' tp the channel member 54 at their bottoms with the channel member 55 adapted to pivot rearwardly away from the front channel member 54 about the pin 55'. A pulley 55" is rotatably mounted to the pin to guide the cable member 52 and 53 about their bend at the bottom of the channel members.

The channel members act to hold the outer portions of the cables in place relative to one another as the bend or bow about the curved connection 56 between the channel members and prevent them from bending off to one side or the other and prevent loose cable sections from loosely moving about and to one side or the other when the hydraulic action of the cylinders pivoting the loader attachment relative to the loader arms causes these cables to bent in their intermediate portions. The hydraulic cable sections 52 and 53 extend from the hydraulic cylinders 25 and 25' into the channel member 54 and are held in place beside one another by the brackets 58 and the cable sections and then bow about the rod 55' pivotally connecting the channel members together

The pair of hydraulic lines 52 and 53 connect to the hydraulic cylinders and 25' at their forward ends 60 and at their rearward ends 61 are connected to hydraulic lines 57 and 58 on the front end loader. When the loader hydraulic cylinders 28 are activated to pivot the loader attachment 21 about its axis 29 the pivoting action pivots the forward portions 60 relative to the rear ends 61 of the hydraulic lines or cables. The hydraulic cable mechanism 51 act as a elbow guide to guide the intermediate portions 63 of hydraulic lines 52 and 53 as they bend to accommodate the change in positions of their outer ends 60 and 61 relative to one another..

The hydraulic cable guide mechanism 51 is mounted to the one side 35 of the hook frame 23. The hydraulic cable guide mechanism has a pair of channel members 54 and 55. The channel member 54 is fixed to the side of the frame member 23. The channel member 55 is pivotally mounted by a pin 55' tp the channel member 54 at their bottoms with the channel member 55 adapted to pivot rearwardly away from the front channel member 54 about the pin 55'. A pulley 55" is rotatably mounted to the pin to guide the cable member 52 and 53 about their bend at the bottom of the channel members.

The channel members act to hold the outer portions of the cables in place relative to one another as the bend or bow about the curved connection 55 between the channel members and prevent them from bending off to one side or the other and prevent loose cable sections from loosely moving about and to one side or the other when the hydraulic action of the cylinders pivoting the loader attachment relative to the loader arms causes these cables to bent in their intermediate portions. The hydraulic cable sections 52 and 53 extend from the hydraulic cylinders 25 and 25' into the channel member 54 and are held in place beside one another by the brackets 58 and the cable sections and then bow about the rod 55' pivotally connecting the channel members together

The hook frame 23 has a pair of projecting lugs or flanges 24 and 24' projecting angularly rearward and downward along its upper rear edge and a rearward and downward projecting flange 26 along its lower rear edge with a pair of rod receiving holes 27 and 27' in the lower projecting flange 26.

The hook attachment invention 20 is adapted to be detachably mounted on the rear face 23' of the hook frame 23 to the conventional front end loader 21. The loader has pivotally mounted arms 21' and a conventional hydraulically operated lever attachment bracket 29 is pivotally mounted at pivot point 29' to the lower forward ends of the arms 21', powered by hydraulic pistons and cylinders 28.The hook frame 23 on its rear face 23" has a upper pair of downward projecting flanges 24 and 24' are adapted to detachably receive forward upward projecting flanges 31 and 31' on the top of the attachment bracket 29 on the front end loader. The holes 27 and 27' on the lower flange 26 of the hook frame are adapted to receive conventional lever manipulated pins 29" on the bracket 29 on the arms of the front end loader for mounting the hook frame 23 of the hook attachment invention 20 to the attachment bracket mechanism 29 of the front end loader..

The hook attachment invention 20 is also adapted to detachably mount a conventional bucket 30 to the front face 23" of its frame 23. A conventional bucket has a rear face 34 similar to the rear face of the hook frame 23 with a pair of rearward and downward projecting flanges 33 intermediate the height of the rear wall of the bucket and a pair of eyelets or holes 40 in flanges 37, which flanges project rearward and downward along the lower rear face 34 of the bucket.

The front face 23' of the frame 23 of the hook attachment invention 20 has a pair upward projecting flanges 32 and 32' on the upper front face of the frame 23 projecting angularly forward and upward. The flanges are adapted to be detachably engage beneath complementary rearward and downward angular projecting flange 33 on the rear face 34 of the bucket 30. The front hook attachment invention 20 has a pair of lever manipulated rod members 35 and 35' mounted to the forward portion of the frame 23 of the attachment invention with pins 36 and 36' directed downward.

The conventional bucket 30 has the pair of rearward projecting flanges 37 on its rearward lower portion 38 ' of the bucket frame 39 directed angularly rearward and downward with the holes 40 therein to receive the pins 36 and 36' of the hook attachment invention to detachably connect the bucket 30 to the hook attachment invention 20.

The manipulative lever members 35 and 35' of the hook frame 23 each have handles 41 and 41' which are pivotally mounted on pins 43 and 43', which pins are fixed to flanges 42, and the flanges are in turn fixed to the frame 23. The handles are pivotally mounted at a second pivot point by pins 44 to short rods 45 and 45'. The short rods 45 and 45' each have an enlarged head member 46 at their lower end and an enlarged head 48 at their upper end , and the rods 45 and 45' slide in sleeves 47 and 47', which sleeves are fixed to the upper ends of connecting rods 49 and 49'. The rods extend downward to the lower portion of frame 23. A coil spring 50 is fitted between each sleeve 47 and 47' of the connecting rods and the upper heads 48 on the short rods 45' and act to cushion upward movement of the connecting rod relative to the short rods 45 and

45' when the connecting rod sleeves 47 and 47' are urged upward on the rods 47 and 47', causing the sleeves of rods 49 and 49' to slide upward on the rods 45 and 45'. The coil springs act engage the upper ends of the sleeve and they act to cushion that upward movement and act to urge the connecting rods back down on the rods 45 and 45'. The pins 36 and 36' are pivotally mounted at their upper ends at pivots 36"' to the lower ends of the rods 49 and 49'. The pins are slidably mounted in sleeves 36"" fixed at the bottom of the frame 23.

Operation.

The hook attachment invention operates as follows;

The front end loader 21' will be driven up to the hook attachment invention 20 and the arms 28 of the loader will be pivoted downward to lower the attachment bracket 29 near the ground slightly below its position as shown in Figure 1, with the bracket 29 pivoted clockwise slightly further than shown in the drawing, to facilitate the attachment.. Whereupon the loader 21" will be driven further forward until the upward projecting flanges 31 and 31' on the forward face of the attachment 29 of the loader are beneath the flanges 24 and 24' on the rear face 23" of the frame 23 of the hook attachment invention 20

Whereupon the arms 28 of the loader will be raised a short distance on the loader to enable the flanges 31 to slide directly up under the flanges 24 and 24' of the hook attachment invention and the hook attachment 21 will then be pivoted back counterclockwise about its pivots 29' to its position shown in Figure 1 by the retraction of the pistons of the cylinders 28, and the arms raised slightly further, if necessary, to cause the hook attachment to pivot about the

flanges causing the lower flanges 26 and 26' to slide under the pins 30 of the attachment 21 of the front end loader, while flanges 24 and 24' remain hooked on the flanges 31 of the hook frame 23.

Whereupon the handles 60 and 60' of the attachment 21 on the arms 28 of the front end loader will be pivoted downward from their position shown in solid lines in Figure 3 which will cause the connecting rods of the attachment 21 of the front end loader to slide downward and thereby cause the pins 29' mounted to the bottom of the connecting rods to slide downward in their sleeves at the bottom of the attachment flanges. The downward movement of the pins 29' will cause them to slide down into the holes 27 and 27' in the bottom flange 26 of the rear attachment frame 23 of the hook attachment as shown in Figure l, thereby locking the frame 23 of the hook attachment as well as the hook attachment to the attachment bracket 29 of the front end loader, so that the frame 23 will move with the attachment bracket when the attachment bracket is moved by its hydraulic cylinders between the bracket and the arms and when the arms of the loader are moved upward downward by the hydraulic cylinders of the loader powering the arms.

Once the hook attachment 20 has been attached to the attachment 29 of the front end loader, the piston and cylinders 25 and 25' of the hook attachment invention will be connected to the hydraulic lines of the front end loader.

A hydraulic line guide mechanism 51 is provided to guide the hydraulic lines 52 and 53 between the hydraulic cylinders 25 and 35' and the hydraulic lines 57 and 58 which provide hydraulic

fluid under pressure from a pump on the loader to the lines 52 and 53 to power the cylinders 25 and 25' in both directions. The hydraulic line guide mechanism has two elongated channels 54 and 55 pivotally connected together by a pivot 55' at the bottom of the channels . The channel 54 has one side fixed to the side of the frame 23 of the hook attachment invention 20.

The hydraulic lines 52 and 53 extend from the cylinders 25 and 25' through a line handling channels 54 and 55 of the hydraulic line guide mechanism or bracket 51 mounted on one side of the frame 23 and these lines terminate coupled to the couplings 56 and 56' of the hydraulic lines 57 and 58 of the loader.

These lines 57 and 58 on the loader are connected at their other ends to a pump, not shown, on the loader. The pump on the loader pumps hydraulic fluid along lines 57 and 58 and lines 52 and 53 to the hydraulic cylinders 25 and 25', with cylinder 25' being connected in parallel with cylinder 25 to provide hydraulic fluid under pressure to both cylinders to power the telescoping of the pistons 25' of cylinders 25 and 25' to pivot the hooks upward and downward about the pivots on the frame 23 to thereby raise and lower the hooks relative to the hook frame.

Once the hydraulic lines from the cylinders 25 and 25' of the hook attachment have been connected to the hydraulic pump of the front end loader, the hook attachment invention can be operated to hook or grapple objects with the hooks 22.

When it is desired to use the bucket 30 in combination with the hook attachment invention 20, the operator will move the front end loader with the hook attachment attached to the attachment

bucket 30.

Whereupon, the operator of the front end loader will raise the arms of the front end loader to raise the attachment 29 of the loader and the hook attachment invention 20 off the ground and then move the loader and the hook attachment until they are in front of the bucket and then lower the arms of the front end loader to lower the attachment and the hook attachment to the ground and then move the loader , attachment and hook attachment forward until the frame of the hook attachment is in front and below the flanges of the bucket. Whereupon, the operator of the front end loader will raise the arms of the loader to raise the hook attachment to cause the flanges on the front of the frame of the hook attachment to engage under the flanges 33 of the bucket. Whereupon, the operator will if necessary also pivot the loader attachment member 29 counterclockwise when viewed from Figure 1, to cause the lower front face of the frame 23 to pivot against the rear wall of the bucket thereby bringing the pins 36 over and in alignment above the holes 40 in the rear flanges 37 of the bucket. The operator may then pivot the handles 41 and 41' downward from their positions as shown in Figure 3 to cause the short rods and long rods 49 to slide downward in the frame 23 which cause the pins 36 and 36' downward in the sleeves of the frame and thereby engage in the holes 40 in the rear flange of the bucket thereby locking the bucket to the frame 23.

Thereupon, the bucket 30 will be locked to the frame 23 of the hook attachment and may be used with the hooks on the arms of the front end loader.

The pair of hydraulic lines 52 and 53 connect to the hydraulic cylinders 25 and 25' at their forward ends 60 and at their rearward ends 61 are connected to hydraulic lines 57 and 58 on the front end loader. When the loader hydraulic cylinders 28 are activated to pivot the loader attachment 21 about its axis 29' the pivoting action pivots the forward portions 60 relative to the rear ends 61 of the hydraulic lines or cables. The hydraulic cable mechanism 51 act as a elbow guide to guide the intermediate portions 63 of hydraulic lines 52 and 53 as they bend to accommodate the change in positions of their outer ends 60 and 61 relative to one another..

The hydraulic cable guide mechanism 51 is mounted to the one side 35 of the hook frame 23. The hydraulic cable guide mechanism has a pair of channel members 54 and 55. The channel member 54 is fixed to the side of the frame member 23. The channel member 55 is pivotally mounted by a pin 55' tp the channel member 54 at their bottoms with the channel member 55 adapted to pivot rearwardly away from the front channel member 54 about the pin 55'. A pulley 55" is rotatably mounted to the pin to guide the cable member 52 and 53 about their bend at the bottom of the channel members.

The channel members act to hold the outer portions of the cables in place relative to one another as they bend or bow about the curved connection 55"' between the channel members and prevent them from bending off to one side or the other and prevent loose cable sections from loosely moving about and to one side or the other when the hydraulic action of the cylinders pivoting the loader attachment relative to the loader arms causes these cables to bent in their intermediate portions. The hydraulic cable sections 52 and 53 extend from the hydraulic cylinders 25 and 25' into the channel member 54 and are held in place beside one another by the brackets 58 and the cable sections and then bow about the rod 55' pivotally connecting the channel members together

and then connecting cable portions run on upward along the other channel member 55 beside one another and are held in place by brackets 58' and terminate with couplings 56' to the loader hydraulic lines 57 and 58.

The brackets 58 serve as brace members by engaging the cables at intervals along both channel members 54 and 55 and have bolts 58' with bolt heads which engage against the brace and are threaded into the channel members 54 and 55 to hold the brace against the cables and the cables in the channel members, while the cable members are allowed to pivot about the rod forming the pivotal connection between the channel members.

A coil spring 59 connects channel 54 to channel 55 to urge them together, and a strap 60 is fixed to channel 55 to engage the arm of the loader to prevent the channel 55 from pivoting too far apart from channel 54. The channel 55 will pivot away from channel 54 as the arms of the loader lift the hook attachment and the arm attachment is pivoted away from the arms by the hydraulic cylinders 28 which power the pivotal movement of the arm attachment on the arms of the loader.

Thus it will seen that a novel hook attachment has bee provided which enables the hook to be used alone with a front end loader or in combination with a bucket . It will be further seen that a novel hydraulic line guide mechanism has also been provided to guide and keep the hydraulic lines between the cylinders and the loader in a constant path as the lines are moved at their outer connecting ends to different spacings between the ends to keep the lines from loosely moving about and to one side or interfering in anyway during the operation of the hook attachment.

FIG. 1

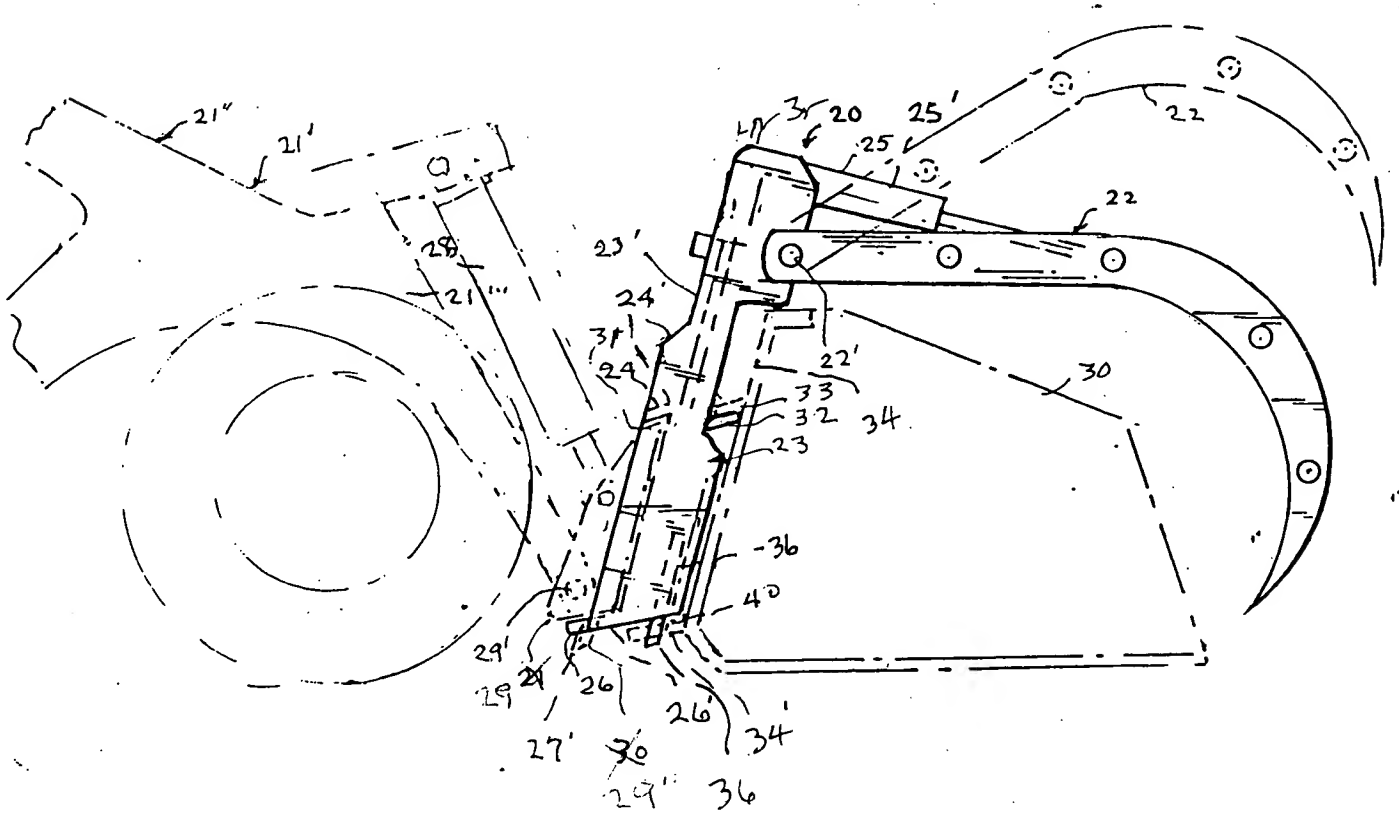
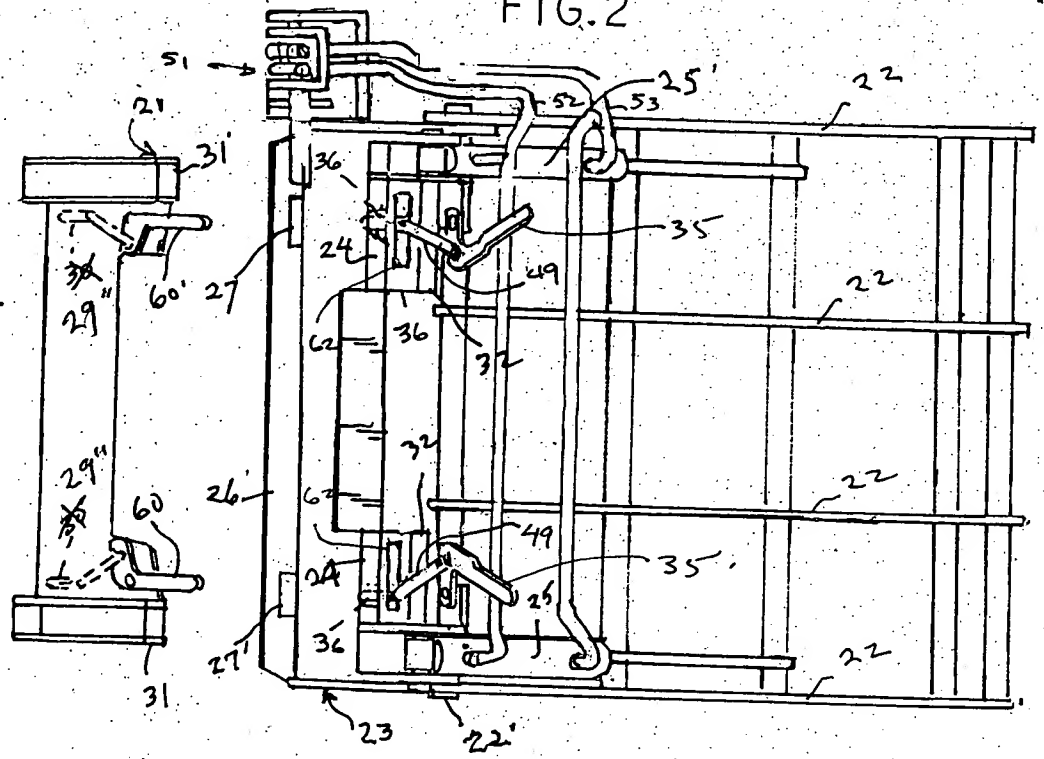


FIG. 2



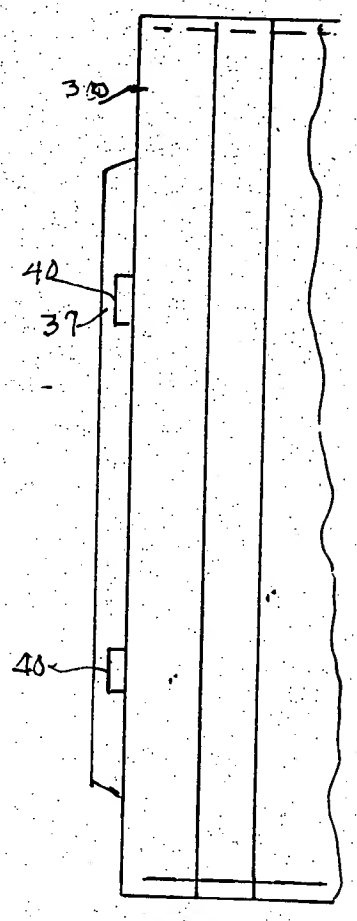


FIG 3

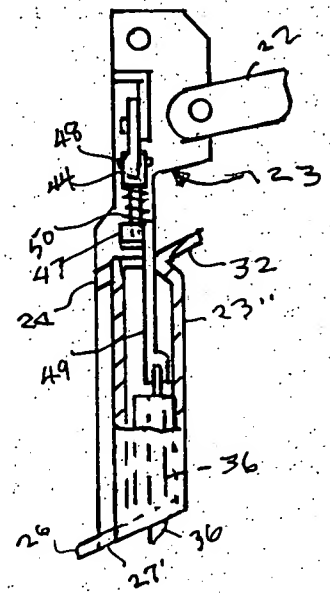


FIG. 4

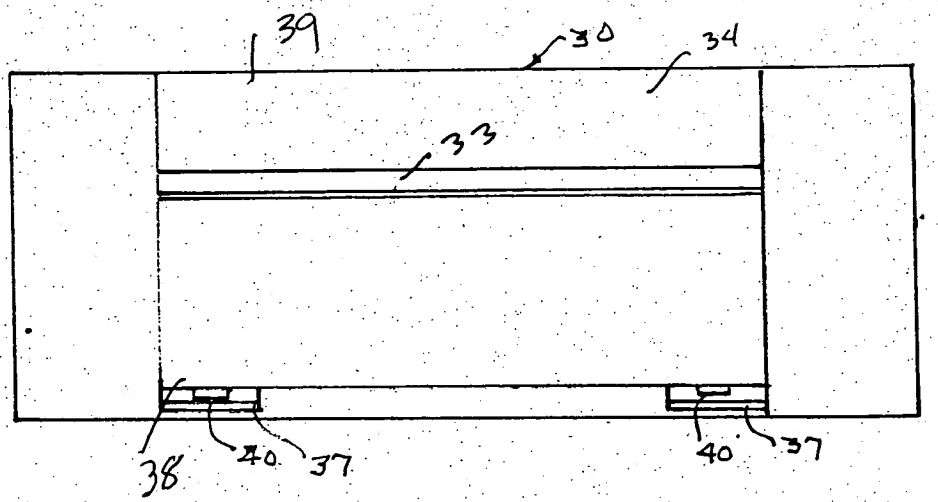


FIG. 5

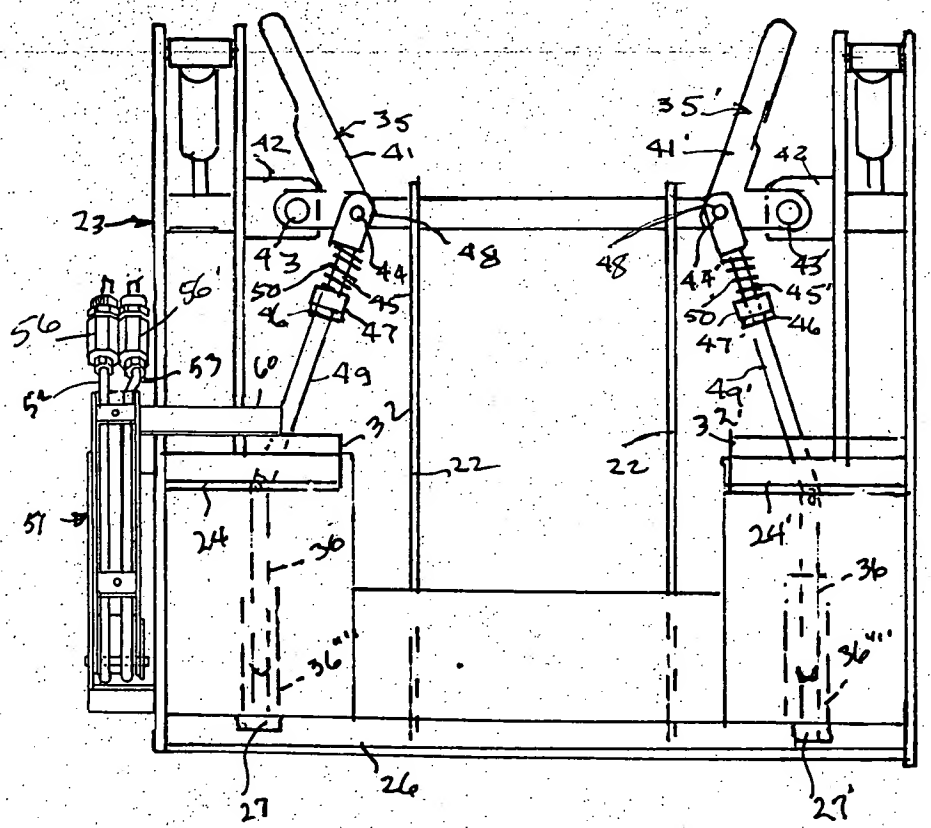


FIG. 6

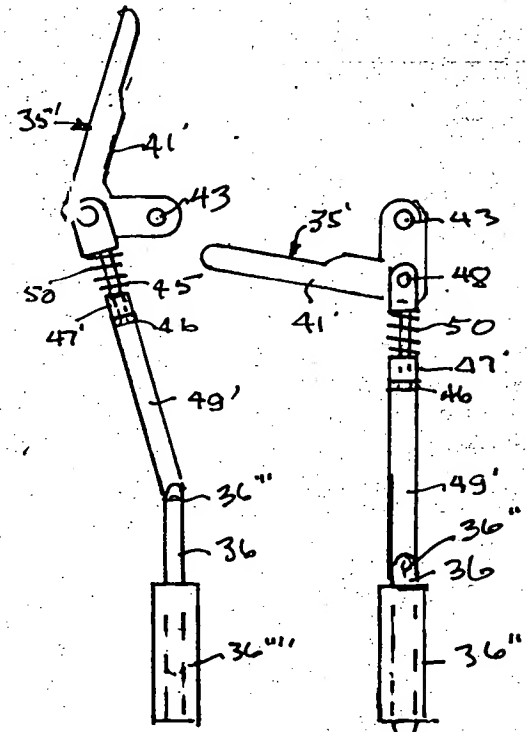
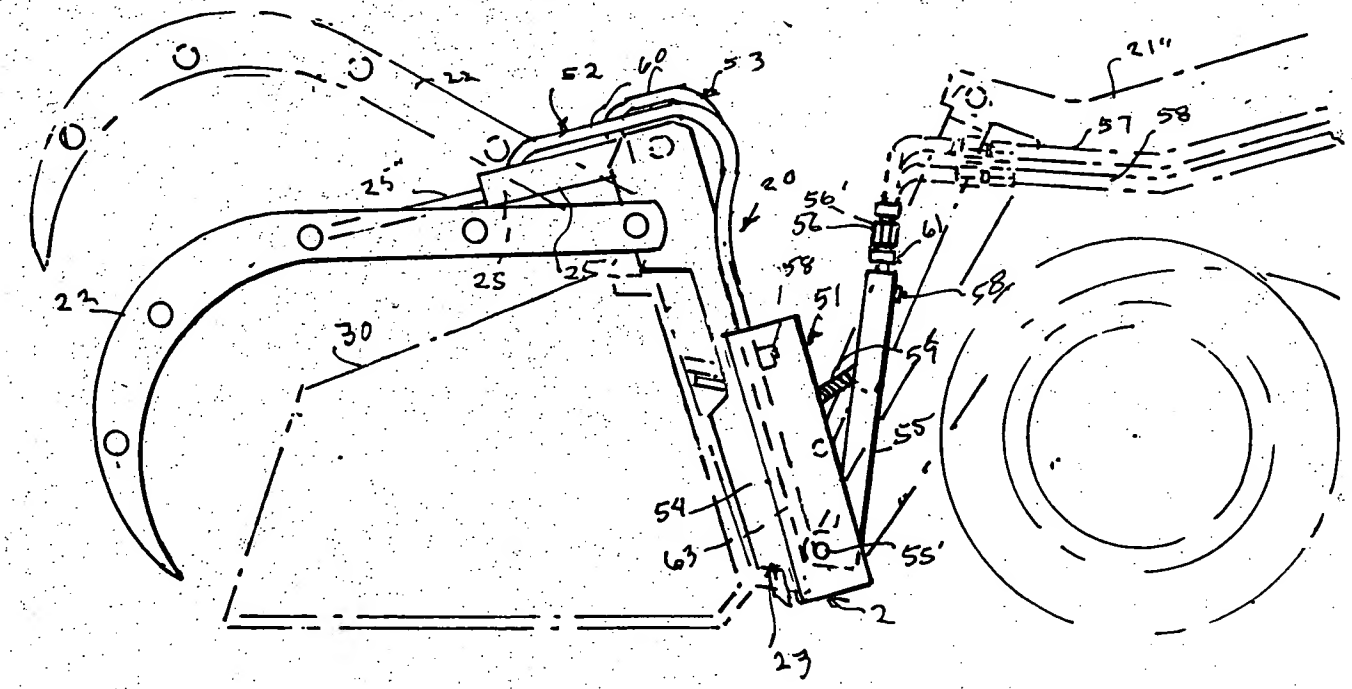


FIG. 7

FIG. 8



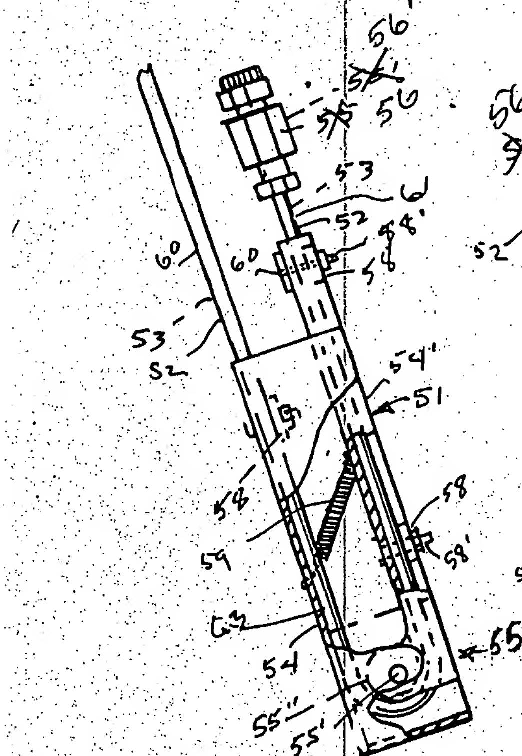


FIG. 9

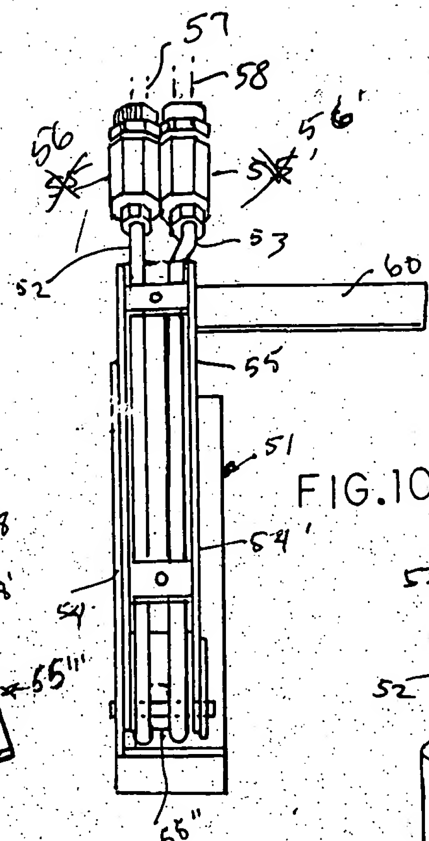


FIG.10

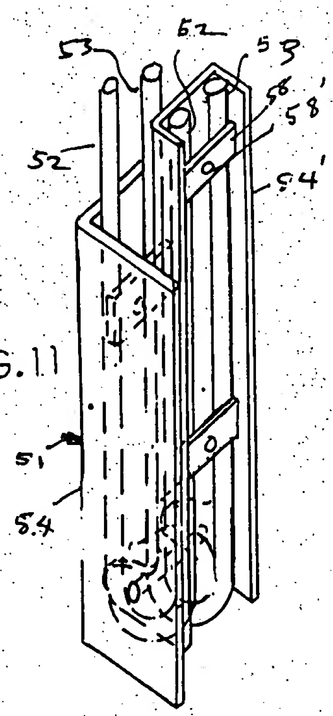


FIG.11